NATIONAL WEATHER SERVICE

Western Region Notes

APRIL 8, 2004

REGIONAL DIRECTOR'S OFFICE

2004 Environmental Hero Award Winners: Congratulations to the following 2004 NOAA Environmental Hero Award Winners nominated by NWS Western Region. Tentative date for the award ceremony is April 22 in Washington DC. Western Region recipients include:

> ***WFO Glasgow***: MIC Julie Adolphson nominated former Meteorologist in Charge Jim Rea, who volunteered to help the National Weather Service and state of Montana by sharing his vast knowledge and interests in hydrology and climatology that began during his years in the NWS and has continued throughout his retirement.
>
> ***WFO San Francisco Bay Area***: MIC Dave Reynolds nominated Pietro Parravano, because he has improved the awareness of NWS forecasters and NOAA Office of Research (OAR) staff in the hazards faced by the fishing community of California by his contributions to NWS training programs and input to yearly field research programs conducted by OAR and NWS.
>
> ***WFO Spokane***: Warning Coordination Meteorologist Ken Holmes nominated Ron Valley who has worked with the National Weather Service throughout the past 20 years to organize and develop emergency communications and the All-Hazards Emergency Alert System (EAS) for the Inland Northwest.
>
> ***WFO Seattle***: WFO Seattle nominated Clay Freinwalk, because he led the effort to create a true all-hazards NOAA Weather Radio (NWR) automated network within the state of Washington. As a result, 94 percent of the state's residents have access to the NOAA Weather Radio broadcasts.

Remembering the Deadly Tornado Outbreak of April 3-4, 1974: On Saturday, April 3, 2004, Deputy Director Jim Campbell attended the 30th anniversary ceremony of the April 3-4, 1974 super outbreak of tornadoes. The ceremony was held in Athens, Alabama, which is just west of Huntsville. On April 3, 1974, he was an intern in Birmingham and was involved in helping to issue warnings that night. Five major tornadoes struck the state killing 86, injuring 949, destroying 1078 dwellings, and blowing away 421 mobile homes.

At the ceremony, Jim gave a presentation on what it was like working that night, and he contrasted how watches and warnings were issued back then, compared to how they are issued now. Back in those days we had teletype machines to send out warnings

and information. The Birmingham radar was a WSR-57, located about 40 miles from the office with a facsimile of the radar in the Birmingham office. It was called the RATTS machine and was poor quality compared to today's standards. Paper weather maps hung on the wall!

People who lost family members in the deadly tornado outbreak were in the audience, and the experience reminded Jim of just how critical our job is and that people rely on us to issue warnings. They did not have the kind of lead time we do today, but the long tracks of the tornadoes still allowed citizens to get the warnings. Many died, but many lives were saved because they took proper protective actions. The experience also reminded Jim just how incredible the improvements have been in warnings for severe weather in the last 30 years and how fortunate we are in the NWS to have the support of the American people to carry out our mission.

Heidi Nelson is Appointed as a Contracting Officer: Heidi Nelson (WRH, AMD) recently received appointment as an official Level 1 DOC Contracting Officer.

Contracting officers have exclusive authority to enter into and administer contracts on behalf of the government. Heidi can now act as the approving official. Congratulations, Heidi!

Weather and the News: The April 2004 edition of National Geographic magazine has extensive input from National Severe Storm Laboratory and Storm Prediction Center. The publication is now arriving at homes across the nation. You can read part of the publication at http://magma.nationalgeographic.com/ngm/0404/feature1/index.html

On April 12, The Weather Channel StormStories series will feature a story about the Christmas 2003 mudslides in the San Bernardino mountains that killed several people. WFO San Diego staff provided excellent background to the producers of this segment. Check local listings, but it is expected to air at 7:00 p.m. CDT.

AROUND THE REGION

Captain Sandra DeGroot speaks to the staff at WFO San Joaquin Valley

WFO San Joaquin Celebrates Women's History Month: On March 29, WFO San Joaquin Valley ASA Daisy Noceda planned a special National Women's History Month activity for the WFO. Daisy is the Asian and Pacific Islander Special Emphasis Program Manager for Western Region, and she invited Captain Sandra DeGroot, Commanding Officer of the U.S. Navy Hospital in nearby Lemoore, California, to speak to the WFO about women in the military. President George W. Bush declared that women's roles in the military were to be emphasized during National Women's History Month this year. Nice work, Daisy.

WFO San Joaquin Valley Participates in Career Days: WFO San Joaquin Valley has had numerous requests for career-day representatives this spring. To date, the WFO has made presentations at four schools. Four more talks on careers in science are scheduled in the coming month, which will bring the total number of students reached to nearly 2,000.

In the photo to the left, WCM Dan Gudgel explains how to read a hand-held anemometer to a 5th grader at Pioneer Elementary School in Armona, California.

METEOROLOGICAL SERVICES DIVISION

STATEMENT OF THE WEEK: This week's Statement of the Week is a NOW written by MIC Glen Sampson of WFO Tucson AZ. Glen did an excellent job highlighting the anticipated weather, including a forecast of rainfall potential. Good work Glen!

FPUS75 KTWC 042349
NOWTWC

SHORT TERM FORECAST
NATIONAL WEATHER SERVICE TUCSON AZ
450 PM MST SUN APR 4 2004

AZZ033-050230-
TUCSON METRO/MARANA/GREEN VALLEY-
INCLUDING...TUCSON
450 PM MST SUN APR 4 2004

.NOW...
SHOWER AND THUNDERSTORM ACTIVITY IS DECREASING IN INTENSITY... ALTHOUGH WILL REMAIN IN EASTERN PIMA COUNTY THROUGH 730 PM. PRECIPITATION AMOUNTS WILL BE UP TO 0.10 INCHES WITH PONDING IN LOW LYING AREAS. MOVEMENT ON THE REMAINING SHOWERS WILL BE FROM THE SOUTHEAST TO THE NORTHEAST AT 15 MPH.

$$

AZZ032-050230-
TOHONO OODHAM NATION-
INCLUDING...SELLS
450 PM MST SUN APR 4 2004

.NOW...
SHOWER AND THUNDERSTORM ACTIVITY IS DECREASING IN INTENSITY...

ALTHOUGH WILL REMAIN OVER THE NATION THROUGH 730 PM. STORM MOVEMENT IS TOWARDS THE EAST ABOUT 5 MPH. GIVEN THESE SLOW MOVING STORMS...PRECIPITATION ACCUMULATION UNDER A SHOWER COULD BE UP TO 0.50 INCHES.

$$

AZZ034-050230-
SANTA CRUZ COUNTY-
INCLUDING...NOGALES
450 PM MST SUN APR 4 2004

.NOW...
SHOWER AND THUNDERSTORM ACTIVITY IS EXPECTED TO REMAIN OVER COCHISE COUNTY THROUGH 730 PM. STORMS ARE MOVING FROM THE SOUTHWEST TO THE NORTHEAST AT 20 MPH. PRECIPITATION AMOUNTS WILL GENERALLY BE LESS THAN 0.25 INCHES...ALTHOUGH SOME LOCATIONS COULD RECEIVE UP TO 0.50 INCHES. AFTER 800 PM STORMS WILL DECREASE IN INTENSITY WITH ONLY LIGHT SCATTERED SHOWERS REMAINING.

$$

Best Practices –– Fire Weather: Following the active 2003 fire season in Montana, Ray Nickless (Service Hydrologist) and John Lhotak (student) at WFO Missoula created burn severity maps using data from the U.S. Forest Service. One of the many uses for burn severity mapping is to identify areas susceptible to flash flooding. Several WR WFOs have created and used map backgrounds of this type to assist in flash flood forecasting. Using ArcGIS, Ray and John created shape files that can then be input into AWIPS as overlay maps to be used for forecasting flash floods and debris flows in burn areas. To see examples of the burn severity maps along with instructions on how to create these maps, go to the WR Best Practices portion of the WRH webpage at http://ww2.wrh.noaa.gov.

Aviation Program: The Western Region nominees for the 1st quarter 2004 Aviation Service Awards have been submitted to Headquarters Aviation Services Branch for consideration.

The 1st quarter Western Region nominee for the individual award is Allen Kam from WFO Seattle. Allen conducts extensive outreach to the aviation community, including writing articles on aviation safety as it pertains to weather for the State of Washington Division of Aeronautics Newsletter, and conducting the weather portion of numerous pilot safety seminars. According to Chuck K. Smith, FAA Safety Counselor, “Mr. Kam’s presentation skill enthralled the pilot audience and left them without any hesitation that the knowledge they had gained would greatly enhance their flying skill. We are extremely grateful that the National Weather Service has men and women of Mr. Kam’s caliber on its staff.”

The 1st quarter Western Region nominees for the team award are WFO Las Vegas and CWSU Palmdale. The proactive efforts of CWSU Palmdale and WFO Las Vegas on February 26, 2003, serve as a model performance of professional collaboration aimed at working together to accomplish our mission. A winter storm produced widespread rain and low ceilings across much of southern Nevada, and the 1200 UTC TAF for Las Vegas' McCarran International Airport anticipated improvement to occur slowly throughout the morning hours. As a result, the Palmdale Air Route Traffic Control Center (ARTCC) decided to limit national traffic flow into Las Vegas to 34 flights per hour during the morning, a number considerably lower than normal. As the morning progressed, it became evident the cloud cover was clearing more rapidly than earlier expected. Walt Rogers of the Palmdale CWSU and Andy Bailey of WFO Las Vegas discussed the implications, and the TAF was promptly amended to reflect the accelerated recovery. Based on that amendment, the ARTCC increased the national traffic flow into McCarran to 58 flights per hour. The ceiling indeed lifted in accordance with the amended forecast, alleviating significant congestion in the national air traffic grid. The excellent forecast gave the aviation customer huge benefits by increasing the traffic flow.

IMET workshop participants receive AMRS satellite dish training.

Annual Fire Weather Training in Boise: NWS Headquarters, Fire and Public Weather Branch, with assistance from Western Region, held the National Fire Weather Forecasters Course (S-591) and Incident Meteorologist (IMET) Workshop at the National Interagency Fire Center (NIFC) in Boise, Idaho, on March 8 -19, 2004. As fire weather is one of the most important programs for Western Region WFOs, one focus of this year's S-591 was to provide fire weather instruction to WFO staff other than the Fire Weather Program Leader. Advanced fire weather training for additional forecasters will help the NWS to continually improve fire weather services.

IMET trainees Mike Fowle (Phoenix) and Steve Reedy (Tucson) practice theodolite use.

In addition to annual Advanced Meteorological Response System (AMRS) training, an emphasis of the 2004 IMET Workshop was to allow exchange of meteorological and incident support information between IMETs. Many workshop attendees gave short presentations on a variety of IMET topics to the class, similar to what is done at many professional conferences. All attendees were provided CDs containing electronic versions of instructions given at S-591 and the IMET Workshop, allowing easier sharing of training information back at the WFO.

WFO Billings Participates in Homeland Security Drill: On March 21 and 22, WFO Billings participated in a large disaster exercise conducted in Yellowstone County. The event was a series of simulated terrorist attacks in Billings and Laurel. On March 21, the exercise involved a simulated Sarin gas attack at the mall. WFO Billings provided weather support and sent out a CEM to test the EAS system.

On March 22, the exercise involved a simulated terrorist attack at the Conoco oil refinery, as well as the High School in Laurel. WFO Billings again tested the EAS

system, as well as running the HYSPLIT model. This was an excellent simulation to test the office procedures relating to various civil emergencies. Real-time weather information was provided through APRS (Automatic Position Reporting System) and Ham Radio Communications with the EOC proved to be invaluable.

As part of the Local Emergency Planning Committee, WCM Jim Scarlett assisted with planning of the event.

WFO Medford Participates in Brookings, Oregon Beachcomber's Festival: WFO Medford co-marine focal points, Sven Nelaimischkies and Ryan Sandler, participated in a Beachcomber's Festival in Brookings, Oregon during weekend of March 20-21. With an approximate attendance of 800 people, Sven and Ryan hosted a NWS booth at the festival to enhance outreach with the coastal community and promote the NWS web page. Many people visited the NWS booth to watch the weather videos, pick up brochures, or just to talk about the weather. Sven and Ryan also provided two one-hour presentations on "Ocean Waves" to a total of about 40 people.

Chris Fontana, Redding Fire Weather Center Team Leader (left), speaks to WFO Medford fire weather forecasters Bill Ludwig, James Reynolds, Mark Berteau, and Ken Sargeant.

WFO Medford Tours Redding, California Geographic Area Coordination Center: On February 19, staff from WFO Medford conducted a familiarization trip to the Fire Weather Center (FWC) of the Redding, California Geographic Area Coordination Center (GACC). During the visit, staff from the FWC described their operations and discussed forecast issues related to Siskiyou and Modoc counties in northern California which are in WFO Medford's area of responsibility. The Medford staff also received a complete tour of the remainder of the GACC which included: the fire dispatch center, the flight operations center, the parachute training and maintenance department, and the immense supply cache.

Holt Area Spring Trade Show: WFO Pocatello participated in the March 25-27 Holt Area Spring Trade show with an information exhibit. More than 35,000 people attended the event. NWS teamed up with the Idaho Bureau of Homeland Security to sponsor a booth to provide all-hazards safety information to our eastern Idaho community. NWS focused on the digital services available using the slogan, "Digital Services - Graphical Solutions - A New Era in Choice." A second display was on weather, water and climate of the Lewis and Clark Expedition highlighting their journey, especially in Idaho. The third display discussed the US Citizen Corps Volunteer activities highlighting Community Emergency Response Team of which WFO Pocatello is participating. WCM Vern Preston also teamed with Caribou County Emergency Management which provided a NOAA All-Hazards Weather Radio for a free drawing.

Tsunami Awareness: WFO Portland and WFO Medford are participating in the Oregon Tsunami and Earthquake Awareness Campaign during the period March 20 - May 20, 2004. WFO offices will serve as points of contact for fielding questions and inquiries about the Tsunami Warning and the Tsunami Ready Programs.

Emergency Communication Dispatchers: On March 25, Jim Purpura (WFO San Diego MIC) and Mark Moede (lead forecaster) participated in a briefing of the emergency communication dispatchers for the county of San Bernardino. Topics at the meeting included EMWIN, weather patterns that affect San Bernardino, definitions of watches and warnings, and a review of products and what is available on WFO San Diego's web site. The meeting was 4 hours long and also included folks that worked the night shift.

SCIENTIFIC SERVICES DIVISION

WR PD&T and Intern Report - Due April 15: The office semi-annual Professional Development and Training Plan (PD&T) Report is due April 15.

New FX-NET Client for the Fire Weather IMETS: SSD and FSL have been working to prepare FX-NET for the upcoming fire weather season. A new client will be available in early April. All fire weather IMETs will need to download this client. The IMETS will also be required to upgrade the security of their laptops in preparation for the upcoming fire weather season.

COMET Training for Convective Weather: COMET offers a number of training modules to help prepare for the convective season

- Principles of Convection II: Using Hodographs
- Principles of Convection III: Shear and Convective Storms
- MCS Matrix
- A Convective Storm Matrix: Buoyancy/Shear Dependencies
- 10 Common NWP misconceptions
- Convective Weather Refresher

This training can be found at: http://www.meted.ucar.edu.

AWIPS Radar OB3 Training: WDTB has prepared a recorded presentation on AWIPS software Open Build 3 (OB3), enhancements and changes to radar and warning functionality. The presentation includes audio and is 24 minutes long. There is also an associated 10 question quiz. The current system does not have the capability to log the quiz results, we recommend your staff print out their feedback at the end of the quiz.

The URL link to the "New Enhancements and Changes to Radar and Warning Functionality" training module is: http://wdtb.noaa.gov/modules/AWIPS_OB3.

Eighth Annual Great Divide Weather Workshop, Billings MT, September 8-10: The National Weather Service (NWS) in Billings, Montana invites you to participate in the Eighth Annual Great Divide Weather Workshop, September 8-10, 2004, in Billings. The conference is tentatively scheduled to begin at 1:00 p.m. on September 8 and end at noon on September 10. These times will allow many people to use September 8 and the 10 as travel days. A banquet is tentatively scheduled to be held the evening of September 9th at the hotel.

The focus of the workshop will be on the forecast challenges faced in the Intermountain West and the Western High Plains. We hope to make this workshop an excellent means to share and gather new ideas ranging from IFPS methodology to forecast techniques. We are working on a diverse and informative group of invited speakers.

The workshop will be held at the Sheraton Hotel in downtown Billings (Phone:1-800-588-7666). The Sheraton Hotel of Billings is conveniently located downtown, and several restaurants are within walking distance. A block of rooms has been secured at a rate of $55.00 per night by mentioning the NWS. Reservations must be made by August 23rd to ensure this rate.

Please provide us with a topic or abstract by June 15, 2004 for inclusion into a workshop preprint. All abstracts may be emailed to: Byz.Great.Divide.Workshop@noaa.gov.

You may access the workshop webpage from the local news section of the NWS Billings homepage at http://www.wrh.noaa.gov/billings/GreatDivide.shtml. The workshop contact is: William Rasch, voice: 406-652-0851, fax: 406-652-3214

DGEX is Here: The ISST has been working with NCEP and OST to produce a better set of downscaled model based grids that can be used as a first guess fields for days 4-7 of the IFPS forecast grids. The project is called Downscaled GFS with Eta Extension (DGEX) and is the first step of several planned to provide a better suite of downscaled model grids. Kirby Cook (SSD) is working on the DGEX grid decoding and LDM transfer for all of the CONUS evaluation offices. Tim Barker (SOO-Boise) has developed a set of baseline Smart-Init tools for DGEX.

The schedule is:

March 15 : CONUS and AR evaluation (at approximately 8-12 offices nation wide)
Forecasters at a subset of WFOs to assess impact on IFPS operations
Use Regional Wide Area Network (WAN) to distribute data to test sites

Late May: Implementation of DVB-S that will free up AWIPS SBN bandwidth

June: OB3.2 upgrade to AWIPS configuration to display DGEX fields

June: DGEX operational via AWIPS SBN

List of proposed DGEX fields:

Pressure at surface and MSL
T and RH at 2 m, 0-30mb, 30-60mb, 60-90mb, 90-120mb, 120-150mb
U and V wind at 10 m, 0-30mb, 30-60mb, 60-90mb, 90-120mb, 120-150mb
Total Precip at surface
Total Cloud Cover
Max/Min temperature at 2 m
Weather Smart Init fields

Probability of Freezing Precip
Probability of Frozen Precip
Probability of Thunderstorms
Terrain height (only once - not every time-step)

Synoptic parameters (for assessment of model synoptics):

Sea Level Pressure
1000 mb Z
850, 700, 500 mb Z, T, RH, U, V
700 mb omega
250 mb Z, U, V
Surface based lifted index

Advanced Warning Operations Course (AWOC): The dates for the "train the trainer" portion of AWOC have been set. Each WFO/RFC have been assigned one slot for the SOO/DOH or radar focal point to attend the one week facilitator course at the WDTB in Norman OK. The AWOC course dates are:

August 3-5, 2004
August 17-19, 2004
August 24-26, 2004
August 31-Sep 2, 2004
September 14-16, 2004
September 21-23, 2004

AWOC Course Description:

The Advanced Warning Operations Course (AWOC) will initially consist of two tracks — Core Track and Severe Weather Track. There will be a Winter Weather track added to the end of the course. Each track contains approximately 14 hours of training material (includes evaluation components). The course will be facilitated on site by an onsite facilitator (SOO, DOH, or locally appointed training officer). This facilitator will participate in a workshop in Norman, OK in August or September 2004. The AWOC will begin in October 2004 and will include a combination of distance learning technologies including teletraining, web-based training, computer-based training on CD-ROM, Weather Event Simulator (WES) simulations, and printed material. The course is designed to allow every NWS Forecaster (Meteorologist and Hydrologist) to participate. Each instructional component as described below will include a separate evaluation component that will be tracked by the AWOC on-site facilitator. Pre-test options will be available for many of the instructional components.

Facilitator Workshop: The facilitator workshop will help develop a partnership between the WDTB and the AWOC on-site facilitator (one person from each office) who together will deliver the AWOC training. The attendee will become familiar with the roles and responsibilities of the WDTB and the on-site facilitator. The purpose and content of the course will be presented. A means by which to keep track of students and their progress will be discussed. Simulations will be an integral part of AWOC. The on-site facilitator will administer the simulations, choosing from several provided by WDTB or from locally developed simulations. The workshop will include instruction on simulation theory and tools, including evaluation techniques, for more effective delivery of simulations.

AWOC Core Track:

1. Decision Making in a Warning Environment Brief Description:
   The content will focus on various aspects of decision making as it pertains to the operational warning environment. This will include the three levels of situation awareness and how they are accounted for in the warning process. In addition, the meaning and value of expertise, as well as strategies for acquiring it, will be presented.
   Delivery Methods: Teletraining, printed materials, and web support materials
   Approximate Completion Time: 4 hours

2. Effective Office Warning Strategies Brief Description:
   The content will focus on putting together strategies which will allow the decision maker to make the best use of their skills and those of the warning team. This will include ways to manage workload and heighten communication. The benefits and challenges of coordination both within the office and with external partners will be illustrated.
   Delivery Methods: Teletraining, printed materials, and support materials
   Approximate Completion Time: 2.5 hours

3. Data Quality Brief Description:
   Radar, satellite, radar/satellite integration, ground truth, and VCP Explorer are some of the topics that will be covered in this block. Emphasis will be on the impacts of poor data quality, strengths and limitations of various sensors, and optimum utilization of the various sensors to improve/mitigate data quality issues.
   Delivery Methods: CD and web module
   Approximate Completion Time: 2.5 hours

4. Societal Impacts and Public PerceptionBrief Description:
   This instructional component will explore the place of weather warnings in a sociological context, and identify elements of an effective warning.
   Delivery Methods: web module
   Approximate Completion Time: 2.5 hours

AWOC Severe Weather Track:

1. Conceptual Models for Origins and Evolutions of Convective Storms and Systems Brief Description:
   Content will focus on recent (1994- present) research on conceptual models that describe important processes in convective storms or storm systems. Formation mechanisms and environmental parameters for supercell and squall line tornadoes, hail, high winds (wet and dry microbursts, bow echoes, derechos), and flash flooding (meteorological considerations) will be described.
   Delivery Methods: web module
   Approximate Completion Time: 2 hours

2. Mesoanalysis for the Warning Forecaster Brief Description:
   This component will identify products and procedures for effective data analysis in completing short-term forecast job tasks (i.e., what a mesoanalysist should do in a severe weather warning methodology).

Delivery Method: web module
Approximate Completion Time: 1.5 hours

3. Storm Interrogation Strategies Brief Description:
Topics in this section include methods to determine the qualitative strength of an updraft and its relation to most severe weather reports, techniques to determine the updraft location for sheared storms, and identifying characteristics of tornadoes, flash floods, hail, and damaging winds.
Delivery Method: web module
Approximate Completion Time: 2.5 hours

4. Application and Review of AWOC Severe Weather Track Brief Description:
This instructional component will use a case or two to review and illustrate the important considerations that a warning forecaster should apply in an effective warning methodology. This review will include components of threat assessment and storm interrogation strategies.
Delivery Methods: Teletraining and a printed student guide.
Approximate Completion Time: 1.5 hours

5. Simulations Brief Description:
Four simulations, complete with simulation guides, will be released with the AWOC. SOOs may choose to use these simulations as the simulations in the AWOC, or they may use them as a reference to develop their own local simulations for AWOC. The simulations in the AWOC can be used to fulfill the annual WES requirement of two simulations for the convective season.
Delivery Methods: Weather Event Simulator (WES) data with supporting simulation guides.
Approximate Completion Time: 5 hours (2.5 hours per simulation with 2 simulations

Online Registration is not yet available at this time.

SYSTEMS OPERATIONS DIVISION

ASOS: Kevin Bolton (WHR, SOD) spent a week with Steve Kusyj, an Oxnard Electronics Technician noted for his ASOS expertise. Kevin and Steve did calibrations at various ASOS locations. Kevin is now visiting the NWSTC ASOS class.

NWR: The USDA funded Winnett, MT NWR was installed yesterday by the Glasgow ET staff. The transmitter will be in its test period. Special thanks goes to the Glasgow ET staff for installing this transmitter on their own. This is the 7th NWR installed this fiscal year. Thanks again.

Western Region AWIPS Status - Operational Build 3: Four Western Region offices completed their installation of Operational Build 3 (OB3). Four more sites are scheduled to install OB3 during April. The bulk of Western Region sites are scheduled to install OB3 during May. Two sites have reported problems with installation CDs. One questioned whether they have a bad CD drive. WFO Billings solved their problem by wiping off the disk.